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EXAMINER	
HOWARD, ZACHARY C	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/542,408	ITO ET AL.	
	Examiner	Art Unit	
	ZACHARY C. HOWARD	1646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 November 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,14 and 78-80* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,14 and 78-80* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1,3,14 and 78-80* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Application, Amendments and/or Claims

The amendment of 11/17/10 has been entered in full. Claims 1, 3 and 14 are amended. Claims 2, 4-13 and 15-77 are canceled. New claims 78-80 are added.

In view of the amended and canceled claims, second species election set forth at pg 5-6 of the 9/28/09 Office Action, and requiring election of a species of disorder, is currently moot but will be reinstated if subsequent amendments to the claims re-introduced said species. The first species election, requiring election of a species of GPCR is maintained (the elected species being SEQ ID NO: 1 (human)).

Claims 1, 3, 14 and 78-80 are under consideration, as they read upon the elected species of SEQ ID NO: 1.

Withdrawn Objections and/or Rejections

The following page numbers refer to the previous Office Action (3/2/10).

The objection to the specification at pg 2 is *withdrawn* in view of Applicants' amendments to the specification filed on 8/26/10.

All objections and/or rejections of claims 67, 68 and 70 are moot in view of Applicants' cancellation of these claims.

The rejection of claims 1, 3 and 14 under 35 U.S.C § 112, second paragraph, at pg 3 as being incomplete for omitting essential steps is *withdrawn* in view of Applicants' amendments to the claims.

The rejection of claims 1, 3 and 14 under 35 U.S.C § 112, second paragraph, at pg 3-4 for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is *withdrawn* in view of Applicants' amendments to the claims.

Maintained Objections and/or Rejections

Claim Rejections - 35 USC § 112, 1st paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3, 14 and 78-80 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for

A method of screening a compound or its salt comprising:

(i) contacting *in vitro* cells comprising a GPCR protein comprising the amino acid sequence of SEQ ID NO: 1, with a fatty acid or a salt thereof in the presence of the compound or its salt and in the absence of the compound or its salt,

(ii) assaying a cell-stimulating activity stimulated by binding of the fatty acid or the salt thereof, or assaying the binding of the fatty acid or the salt thereof, to the GPCR protein in the presence of the compound or its salt and in the absence of the compound or its salt, and

(iii) comparing a cell-stimulating activity stimulated by binding of the fatty acid or the salt thereof, or the binding of the fatty acid or the salt thereof, to the GPCR protein in the presence of the compound or its salt and in the absence of the compound or its salt, wherein a change in cell-stimulating activity indicates that the compound or its salt changes a binding property of the GPCR protein.

does not reasonably provide enablement

A method of screening a compound or its salt comprising:

(i) contacting *in vitro* cells comprising a GPCR protein comprising substantially the same amino acid sequence represented by SEQ ID NO: 1, wherein the GPCR protein has a GPCR function, with a fatty acid or a salt thereof in the presence of the compound or its salt and in the absence of the compound or its salt,

(ii) assaying a cell-stimulating activity stimulated by binding of the fatty acid or a salt thereof, or assaying the binding of the fatty acid or a salt thereof, to the GPCR protein in the presence of the compound or its salt and in the absence of the compound or its salt, and

(iii) comparing a cell-stimulating activity stimulated by binding of the fatty acid or a salt thereof, or the binding of the fatty acid or a salt thereof, to the GPCR protein in the

presence of the compound or its salt and in the absence of the compound or its salt, wherein a change in cell-stimulating activity indicates that the compound or its salt changes a binding property of the GPCR protein.

The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. This rejection was set forth at pg 4-10 of the 3/2/10 Office Action for claims 1, 3 and 14; new claims 78-80 are herewith added to this rejection.

Grounds (2) and (3) of the rejection set forth previously are now moot in view of Applicants' amendments to the claims that remove the embodiments that formed the basis of each ground. Specifically, the claims no longer encompass methods of screening using transgenic animals, which was rejected in ground (2) (pg 8-9 of the 3/2/10 Office Action). Furthermore, the claims are no longer directed to methods "for confirming" "a drug for preventing/treating diabetes mellitus", which was rejected in ground (3) (pg 9-10 of the 3/2/10 Office Action).

Applicants traverse ground (1) of the rejection (pg 7-8 of the 3/2/10 Office Action). Applicants' arguments (pg 10-13 of the 8/26/10 response) as they pertain to the rejection have been fully considered but are not deemed to be persuasive for the following reasons.

In the response, Applicants argue that the amended claims recite a function for the polypeptide used in the method, that the GPCR has "a [GPCR] function". Applicants further argue that the specification provides teachings that provide sufficient guidance regarding the encompassed sequences and substitutions to such that can be made to achieve a desired property. Applicants point to the definition of GPCRs including structure and function at page 1, lines 11-24. Applicants argue that the specification teaches at page 32, lines 19-24 that proteins "having substantially the same amino acid sequence" as SEQ ID NO: 1, 3 or 8 have an activity "substantially equivalent" to these sequences, wherein such activity is a "ligand binding activity, a signal transduction activity, etc" (page 32, lines 29-31), and that such activities can be determined by known methods (page 33, lines 1-3). Applicants argue that the specification at pg 32, lines 19-24, teaches that amino acids that are "the same or substantially the same"

includes sequences having at least 85%, 90% or 95% homology, and at page 33, lines 4-16 teaches that the proteins may comprise deletion, addition, or substitution of at least 1, 2 or 1-30 amino acids, and at page 32, lines 25-28 teaches how to determine homology of amino acid sequences using BLAST, including parameters for such.

Applicants' arguments have been fully considered but are not found persuasive. As amended, the claimed method uses a genus of GPCR proteins "comprising substantially the same amino acid sequence represented by SEQ ID NO: 1" (SEQ ID NO: 1 is the elected species of GPCR protein under consideration), wherein the [GPCR] protein has a [GPCR] function". These amendments do not significantly narrow the genus of variants of SEQ ID NO: 1 encompassed by the claims. The structure of the encompassed protein is still "substantially the same amino acid sequence represented by SEQ ID NO: 1", a phrase which is not provided with a limiting definition in the specification. The teachings at pages 32 and 33 regarding percent homology and the number of mutations are exemplary rather than limiting. The claims still encompass an unlimited number of mutations to the claims and thus do not place any structural limitation on the protein. The amended claims also limit the variants functionally to those having "a G-protein coupled receptor function". The instant specification does not use the term "G-protein coupled receptor function", nor does it provide a limiting definition of such. As such, the term encompasses any possible biological "function" of a GPCR, ranging from ligand binding to the ability to generate antibodies if injected into an animal. Furthermore, the function is not limited to one possessed by the fatty-acid binding GPCR of SEQ ID NO: 1, but includes functions possessed by other GPCRs. The method of screening of the claims requires that the GPCR used in the method be functional in binding a fatty acid and generating a cell-stimulating activity in response to such binding. However, even if the claims were limited to a particular functional activity possessed by SEQ ID NO: 1 that relates to the binding of a fatty acid, the amended claims would still require testing of the vast and essentially unlimited genus of variants of SEQ ID NO: 1 that are encompassed by the claims for such a functional activity.

The teachings in the specification at page 1, lines 11-24 provide a general description of GPCRs, and do not provide any guidance regarding specific mutations

that can be made to SEQ ID NO: 1 and retain functional activity relating to fatty acid binding. The teachings at page 32-33 merely provide guidance as how to make and test mutant sequences derived from SEQ ID NO:1, without provide guidance as to the nature of specific mutations that can be made to SEQ ID NO: 1 and retain functional activity relating to fatty acid binding. As set forth previously, the specification describes a large genus of mutations that can be made in SEQ ID NO: 1, but does not provide any guidance as to which amino acid substitutions, deletions or insertions to make to achieve any desired property, or defined a difference in structure, or difference in function, between proteins corresponding to SEQ ID NO: 1 and variants of said proteins. The claims do not place any structural or functional limitations on the proteins to be used. Prior art was cited teaching that the problem of predicting protein structure from sequence data and in turn utilizing predicted structural determinations to ascertain functional aspects of the protein is extremely complex (Wells, 1990; Ngo et al, 1995; each reference cited previously) and that function cannot be predicted from structure alone (Bork, 2000; Skolnick and Fetrow, 2000; Doerks et al, 1998; Smith and Zhang, 1997; Brenner, 1999 and Bork and Bairoch, 1996; each reference cited previously).

It is maintained that due to the large quantity of experimentation necessary to generate the large number of variants recited in the claims and screen same for activity, the lack of direction/guidance presented in the specification regarding which structural features are required in order to provide activity, the absence of working examples directed to same, the complex nature of the invention, the state of the prior art which establishes the unpredictability of the effects of mutation on protein structure and function, and the breadth of the claims which fail to recite any structural or functional limitations, undue experimentation would be required of the skilled artisan to make and/or use the claimed invention in its full scope.

Claim Rejections - 35 USC § 112, 1st paragraph, written description

Claims 1, 3, 14 and 78-80 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. This rejection was set forth at pg 10-12 of the 3/2/10 Office Action for claims 1, 3 and 14; new claims 78-80 are herewith added to this rejection.

Applicants' arguments (8/26/10; pg 14) as they pertain to the rejection have been fully considered but are not deemed to be persuasive for the following reasons.

In the response, Applicants argue that the specification provides adequate written description for the claims, because "[a]s discussed in the enablement section, the claims have been amended to indicate that "the [GPCR] has a [GPCR] function""; and "the specification discusses amino acid substitutions that may be made to the recited sequences and notes that variants preferably have an activity "substantially equivalent" to the recited amino acid sequences" including "ligand binding activity and signal transduction activity".

Applicants' arguments have been fully considered but are not found persuasive. As described above, the amended claims still encompass an unlimited number of mutations to the claims and thus do not place any structural limitation on the protein, and functionally encompass any possible biological "function" of a GPCR, ranging from ligand binding to the ability to generate antibodies if injected into an animal. It is maintained that instant specification fails to describe the entire genus of polypeptides that are encompassed by each of the claims. The specification fails to describe or teach any other polypeptide which differs from SEQ ID NO: 1 and that retains the characteristics of the parent polypeptides. The specification fails to provide sufficient descriptive information, such as definitive structural or functional features, or critical conserved regions, of the genus of polypeptides. In the absence of sufficient recitation of distinguishing identifying characteristics, the specification does not provide adequate written description of the claimed genus. One of skill in the art would reasonably conclude that the disclosure fails to provide a representative number of species to describe the genus. Thus, Applicants were not in possession of the claimed genus.

Therefore, only a method of screening a compound or its salt comprising:

(i) contacting *in vitro* cells comprising a GPCR protein comprising the amino acid sequence of SEQ ID NO: 1, with a fatty acid or a salt thereof in the presence of the compound or its salt and in the absence of the compound or its salt,

(ii) assaying a cell-stimulating activity stimulated by binding of the fatty acid or a salt thereof, or assaying the binding of the fatty acid or a salt thereof, to the GPCR protein in the presence of the compound or its salt and in the absence of the compound or its salt, and

(iii) comparing a cell-stimulating activity stimulated by binding of the fatty acid or a salt thereof, or the binding of the fatty acid or a salt thereof, to the GPCR protein in the presence of the compound or its salt and in the absence of the compound or its salt, wherein a change in cell-stimulating activity indicates that the compound or its salt changes a binding property of the GPCR protein,

but not the full breadth of the claim meets the written description provision of 35 U.S.C. §112, first paragraph. Applicants are reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. §112 is severable from its enablement provision (pg 1115).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 14, and 78-80 are rejected under 35 U.S.C. 102(b) as being anticipated by Sidhu et al, 2000. Journal of Physiology. 528(1): 165-176 (cited previously). This rejection was set forth at pg 12-15 of the 3/2/10 Office Action for claims 1, 3 and 14; new claims 78-80 are herewith included in this rejection.

The rejection is first restated in view of Applicants' amendments to the claims and then Applicants' arguments are addressed.

Claim 1 has been amended to comprise three steps. The first step encompasses contacting in vitro cells expressing a GPCR comprising the amino acid sequence of

SEQ ID NO: 1 with a fatty acid in the presence and absence of a compound. The second step encompasses assaying (i.e., measuring) a cell-stimulating activity stimulated by binding of the fatty acid to the GPCR in the presence and absence of the compound. The third step encompasses comparing the measured activity in the two conditions, and includes a wherein clause stating "wherein a change in cell-stimulating activity indicates that the compound or its salt changes a binding property of the G protein-coupled receptor".

MPEP 2111.04 discusses "wherein" clauses and states, "The determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case". In the instant claims, the wherein clause is simply a mental conclusion based on the results of the comparison made in step (iii). Any compound that results in a difference when making the comparison (i.e., in the presence or absence of the compound) will result in the mental conclusion that said compound "changes a binding property" of the GPCR. As such, the "wherein" clause recited in claim 1 does not patentability distinguish the claimed method from any prior art method teachings steps (i)-(iii).

As set forth previously, the sequence of SEQ ID NO: 1 is 100% identical with a GPCR known in the art as human GPR120 (see the record for GenBank Protein Database Accession Number AAIOO1176, titled "GPR120 protein [Home sapiens]", dated Oct 4, 2006, 1 page as printed; cited previously as evidence of the amino acid sequence of GPR120).

Also as set forth previously, Sidhu et al teach that "the application of dodecanoic acid (C12), in the absence of albumin, onto the CCK-secreting enteroendocrine cell line STIC-1 directly stimulates CCK [cholecystokinin] secretion". Dodecanoic acid is a fatty acid, and "elevates $[Ca^{2+}]_i$ when applied to STIC-1" (pg 168). The STC-1 cells used by Sidhu et al inherently express a G-protein coupled receptor of SEQ ID NO: 1 (human GPR120) and this receptor mediates the cholecystokinin secretion and increase in intracellular calcium induced by free fatty acids, as evidenced by Tanaka et al (2008. Naunyn-Schmiedeberg's Arch Pharmacol. 377:523-527; cited previously to provide evidence of inherency). Sidhu et al further teach that "[i]n our experimental system, fatty

acids were unable to elicit a rise in $[Ca^{2+}]_i$ in the presence of BSA" (pg 168). Thus, Sidhu et al teach a method comprising a step of contacting in vitro cells expressing SEQ ID NO: 1 with a fatty acid (dodecanoic acid) in the presence and absence of a compound (BSA), measuring the cell-stimulating activity (calcium ion concentration) stimulated by binding of the fatty acid to the GPCR in the presence and absence of the compound, and comparing the two measurements. Thus, the Sidhu et al teaches a method meeting all of the limitations of the steps of claim 1. Therefore, the teachings of Sidhu et al anticipate claim 1.

Claim 3 as amended is now an independent claim, and recites limitations similar to claim 1, except that the GPCR is not limited to being expressed by a cell. Thus, the claim broadly encompasses a method of screening using a GPCR expressed in a cell-free composition, an isolated membrane, or expressed on a cell. Thus, claim 3 encompasses the same embodiment as recited in claim 1. Therefore, claim 3 is anticipated by Sidhu et al for the same reasons as for claim 1 described above.

Claim 14 depends from claim 1 and limits the cell-stimulating activity to one selected from a group including intracellular calcium ion level increasing activity. This activity formed the basis of the rejection of parent claim 1 described above. Therefore, claim 14 is anticipated by Sidhu et al for the same reasons as for claim 1 described above.

New claims 78-80 depend from claims 1, 3 and 14 and limit the compound of the parent claim to "an agonist or antagonist to a G protein-coupled receptor protein". As set forth below in the section titled, "Claim Rejections - 35 U.S.C. 112, 2nd Paragraph", these claims are indefinite but has been interpreted as encompassing a method wherein the compound screened in the parent claim is determined to be an agonist or antagonist to the GPCR. The teachings of Sidhu et al describe above meet the further limitations of these claims, because BSA inhibited the rise in intracellular calcium ion concentration stimulated by the fatty acid; therefore, BSA is an antagonist of the receptor. Therefore, new claims 78-80 are anticipated by Sidhu et al for the same reasons as for claim 1 described above.

Applicants' arguments (8/26/10; pg 15-16) as they pertain to the rejection have been fully considered but are not deemed to be persuasive for the following reasons.

In the response, Applicants argue that as amended claims 1 and 3 recite in step (iii) that a change in binding or cell stimulated activity indicates that the compound changes a binding property of the GPCR. Applicants argue that Sidhu et al are silent as to whether "BSA changes a binding property of a G-protein coupled receptor". Applicants further argue that Sidhu et al suggest that the change in difference in calcium ion response is not due to a change in the binding property of the GPCR. Applicants point to the teaching of Sidhu et al at pg 173 that BSA is used to create a fatty acid aqueous solution in which fatty acids are soluble, and that Sidhu et al postulate that the difference in response may be because the cells are not responding to the monomeric form of the fatty acids or to soluble fatty acids. Thus, Applicants argue, Sidhu et al suggest that the difference is due to a low level of available of fatty acid resulting from the high solubility of fatty acids in BSA, rather than due to BSA necessarily changing a binding property of the GPCR.

Applicants' arguments have been fully considered but are not found persuasive. The "wherein" clause does not provide patentable weight for the claimed method for the reasons described above. As stated above, any method comprising steps (i)-(iii) wherein a compound changes the measured activity would result in the conclusion that said compound changes a binding activity of the GPCR. The teachings of Sidhu et al comprise steps (i)-(iii) and the compound BSA changes the measured activity (stimulation of intracellular calcium ion by a fatty acid). According to the wherein clause, this change indicates that the compound BSA changes a binding property of the GPCR. Furthermore, "changing a binding property" does not require a structural change in the GPCR. The GPCR taught by Sidhu et al has the property of binding (i.e.., ability to bind) to the fatty acid dodecanoic acid, and BSA changes this binding property by reducing the ability of dodecanoic acid to bind to the GPCR. Finally, the term "antagonist" when applied to a receptor includes both compounds that bind to the receptor and those that bind to a ligand of a receptor; interfering with binding indicates that a compound is an antagonist. Application of BSA to the fatty acid and cells expressing the GPCR SEQ ID

NO: 1 interferes with the binding between the fatty acid and the GPCR; thus, BSA changes a binding property of the GPCR.

New rejections necessitated by Applicants' amendment

Claim Rejections - 35 USC § 112, 2nd paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3, 14 and 78-80 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, step (ii), the antecedent basis of "a salt" is unclear as to whether this is the same salt of a fatty acid recited in step (i) or not. If it is the same salt, the recitation in step (ii) should be "the fatty acid or the salt thereof".

In claim 1, step (iii), the antecedent basis of "a salt" is unclear as to whether this is the same salt of a fatty acid recited in step (i) or not. If it is the same salt, the recitation in step (iii) should be "the fatty acid or the salt thereof".

In claim 3, step (ii), the antecedent basis of "a salt" is unclear as to whether this is the same salt of a fatty acid recited in step (i) or not. If it is the same salt, the recitation in step (ii) should be "the fatty acid or the salt thereof".

In claim 3, step (iii), the antecedent basis of "a salt" is unclear as to whether this is the same salt of a fatty acid recited in step (i) or not. If it is the same salt, the recitation in step (iii) should be "the fatty acid or the salt thereof".

Claims 78-80 are new claims depending from claims 1, 3 and 14 respectively. Each limits the compound of the parent claim to "an agonist or antagonist to a G protein-coupled receptor protein". It is unclear whether this limitation is limiting the method to a method of screening with a compound that has been previously determined to be an agonist or antagonist to a GPCR, or whether the dependent claims are limiting the method to one that determines that a compound is an agonist or antagonist of a

GPCR. For purposes of advancing prosecution, the claims are interpreted to include either possibility.

Claims 78-80 recite the limitation “a G protein coupled receptor protein” in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Specifically, by using the article "a", it is unclear whether the dependent claims are referring to the GPCR recited in the parent claim or to any other GPCR. If the claim is intended to refer to the GPCR of the parent claim, it should be amended to recite "the G protein-coupled receptor protein".

The remaining claims are rejected for depending from an indefinite claim.

Conclusion

No claims are allowed.

Applicants’ amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary C. Howard whose telephone number is 571-272-2877. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Gary B. Nickol can be reached on 571-272-0835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Z. C. H./
Examiner, Art Unit 1646

/Bridget E Bunner/
Primary Examiner, Art Unit 1647